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10/585,738	07/12/2006	Ooe Masayuki	1270-46327X00	7230
20457 7590 10/06/2010 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
HIGGINS, GERARD T				
ART UNIT		PAPER NUMBER		
1785				
MAIL DATE		DELIVERY MODE		
10/06/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/585,738

**Applicant(s)**

MASAYUKI ET AL.

**Examiner**

GERARD T. HIGGINS

**Art Unit**

1785

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/07/2010 has been entered.

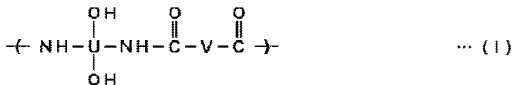
***Response to Amendment***

2. Applicants' amendment filed 09/07/2010 has been entered. Currently claims 1, 2, 4-10, and 12-15 are pending and claims 3 and 11 are cancelled.

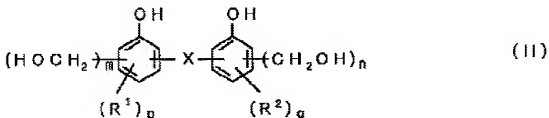
***Claim Rejections - 35 USC § 102***

3. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009].

The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. This means that the Examiner clearly envisages Tadayuki et al. at least disclosing a 1,1,1,3,3,3-hexafluoropropyl group, which anticipates applicants' claim 1.

With regard to claim 2, given the disclosure of Tadayuki et al. the Examiner clearly envisages 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a) [0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

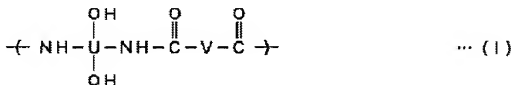
With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

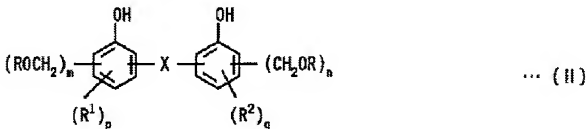
With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

4. Claims 1, 4-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2001-312063).

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009]. The R on the alkoxyethyl group can be 1 to 10 carbon atoms, i.e. 1 carbon atom i.e. methyl [0037]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. The Examiner clearly envisages that Tadayuki et al. disclose a 1,1,1,3,3,3-hexafluoropropyl group, which reads on applicants' claim 1.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

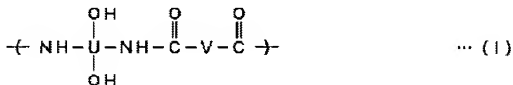
With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

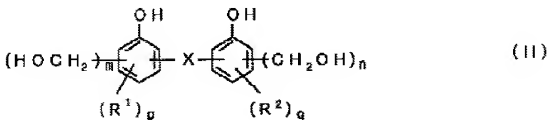
**Claim Rejections - 35 USC § 103**

5. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claims 1 and 2, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. While the Examiner maintains that the Formula (II) of applicants' claim 1 and the specific compound of claim 2 are clearly envisaged (see section 4 above), the Examiner notes that Tadayuki et al. do not specifically disclose an embodiment where 'p' and 'q' are zero, a alkylidene group as 'X' that has been perfluorinated (i.e.  $R^1$  and  $R^2$  are a perfluoroalkyl of from 1 to 3 carbon atoms), or the specific compound of claim 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made any of the compounds disclosed by Tadayuki et al. including a compound having 'p' and 'q' equal to zero, an alkylidene group as 'X' of from 3 to 7 carbon atoms that has been perfluorinated (i.e.  $R^1$  and  $R^2$  are a perfluoroalkyl of from 1 to 3 carbon atoms), or 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed. The motivation for making any of the compounds of Tadayuki et al. is to have a compound that would have increased sensitivity, increase heat resistance, and increase the dissolution rate of an exposed part of the photoresist material [0041].

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a) [0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

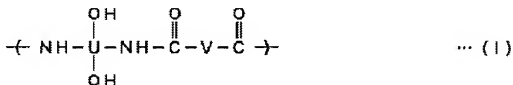
With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

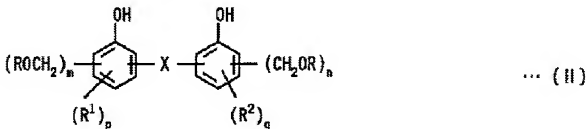
With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

6. Claims 1, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2001-312063).

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009].

The R on the alkoxymethyl group can be 1 carbon atom, i.e. methyl [0037]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. While the Examiner maintains that the Formula (II) of applicants' claim 1 is clearly envisaged (see section 4 above), the Examiner notes that Tadayuki et al. do not specifically disclose an

embodiment where 'p' and 'q' are zero or an alkylidene group as 'X' that has been perfluorinated (i.e. R<sup>1</sup> and R<sup>2</sup> are a perfluoroalkyl of from 1 to 3 carbon atoms).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made any of the compounds disclosed by Tadayuki et al. including a compound having 'p' and 'q' equal to zero and an alkylidene group as 'X' of from 3 to 7 carbon atoms that has been perfluorinated (i.e. R<sup>1</sup> and R<sup>2</sup> are a perfluoroalkyl of from 1 to 3 carbon atoms) as claimed. The motivation for making any of the compounds of Tadayuki et al. is to have a compound that would have increased sensitivity, increase heat resistance, and increase the dissolution rate of an exposed part of the photoresist material.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

### ***Response to Arguments***

7. Applicant's arguments filed 09/07/2010 have been fully considered but they are not persuasive.

On page 7-8 of their Remarks, applicants argue that the Examples of Tadayuki et al. '268 do not teach their compound.

It has been held that "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." Please see *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). The disclosure of Tadayuki et al. teaches applicants' compounds.

Applicants argue on page 9-10 of their Remarks that Tadayuki et al. '268 describe "many different materials" and there is not enough specificity for the claimed materials; furthermore, applicants argue that the Examiner has not taught a method of producing a pattern, an electronic device having a layer of said pattern, or the limitations of claims 4, 12, and 13.

The Examiner respectfully disagrees and notes that the above rejections describe where the materials of applicants' claims are clearly set forth in Tadayuki et al. '268. The rejections also clearly set forth where Tadayuki et al. '268 teach a method of producing a pattern, an electronic device having said pattern, and the limitations of claims 4, 12, and 13. The Examiner has performed his fact finding duties and applicants have not shown where the Examiner has been clearly erroneous in his fact finding. The Examiner maintains his rejections for at least this reason.

With regard to applicants' argument on page 11 of their Remarks concerning page 16 of the Office action mailed on 04/07/2010, the Examiner notes that these arguments are now moot considering applicants' have amended their claims.

Applicants argue on page 10-11 of their Remarks that comparing Example 1 and Comparative Example 4 of their specification shows that there are unexpected results using the presently claimed compounds.

The Examiner notes that the difference in the exposure energy does not appear to support a contention of unexpected results; furthermore, the specification says that the sensitivity was "not so high". This also does not support applicants' contention that the difference in sensitivity was unexpectedly good for Example 1. Additionally, it is noted that the prior art references Tadayuki et al. '268 (see [0072]) and Tadayuki et al. '063 (see [0066]) can expose their pattern using a lower energy than Example 1 of applicants' specification. From all of this evidence, applicants' arguments for unexpected results in terms of sensitivity are unpersuasive.

Applicants argue on pages 14 of their Remarks that Tadayuki et al. '268 cannot be held to anticipate the current claims, and that the clearly envisaged anticipation rejection is not proper because "the issues is not what the Examiner sees, but rather what one of ordinary skill in the art would understand that the reference (Tadayuki et al. '268) teaches."

The Examiner respectfully disagrees and notes that it has been held that "[w]hen the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990). If one of ordinary skill in the art is able to "at once *envisage*" the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula

or write the name of each of the compounds included in the generic formula before any of the compounds can be "at once *envisaged*." One may look to the preferred embodiments to determine which compounds can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962)." Please see MPEP 2131.02.

Given the explicit and well delineated disclosure of Tadayuki et al. '268, the Examiner *clearly envisages* the 1,1,1,3,3,3-hexafluoropropane central group at least from [0042] and 'p' and 'q' being 0 at least from [0009] of Tadayuki et al. '268. The Examiner notes that one of ordinary skill in the art would recognize these compounds as being disclosed by Tadayuki et al. '268. For at least this reason, applicants' arguments are unpersuasive, and the Examiner also notes that the Declarations filed 07/14/2009 and 01/25/2010 are ineffective against the current 35 USC 102(b) rejection as being anticipated by Tadayuki et al. '268 because an allegation of unexpected results cannot overcome a 35 USC 102(b) rejection. See MPEP 706.02(b).

Applicants argue on pages 15 of their Remarks that Tadayuki et al. '063 do not disclose the alkylidene group in between the two phenyl rings of component (c), including the substituents R<sup>1</sup> and R<sup>2</sup>.

The Examiner respectfully disagrees and notes [0038] of the certified translation cited on 07/27/2009. This translation states that the divalent linking group 'X' may be an "alkylidene groups having 2-10 carbon atoms" and "these hydrocarbon groups whose hydrogen atoms are partially or totally replaced by halogen atoms, such as fluorine atoms." This at least teaches a propylidene group, i.e. 3 carbon atoms, having all the hydrogen atoms replaced by fluorine. The Examiner has made a factual finding in

Tadayuki et al. '063, wherein the reference teaches the bivalent linking groups claimed. Applicants have not set forth a rationale that shows the Examiner is clearly erroneous in his factual findings, and therefore the Examiner maintains his position. Applicants' discussion of Formula 10 and Formula 11 on page 15 of their Remarks is unclear given the fact that [0038] is referring to the X in General Formula (II).

With regard to the rejection using Matsuishi et al., the Examiner has withdrawn this obviousness rejection because Tadayuki et al. '268 more clearly meets claim 2 and the rejection using Matsuishi et al. was considered cumulative.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 10am-8pm est. (Variable one work-at-home day).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GERARD T. HIGGINS/  
Examiner, Art Unit 1785

GERARD T. HIGGINS  
Examiner  
Art Unit 1785